

Introduction

Television and Art:

The rough, slatted pattern of light and dark on page 1 of this book is an early television image of Felix the Cat, beamed from New York to Kansas in the late 1920s by engineers at the Radio Corporation of America. A papier-mâché model of Felix, already a familiar media image from comics and cartoons, was placed on a turntable and his photoelectrically converted image transmitted to the sixty-line receivers of the first few thousand video enthusiasts. Less than fifty years later, we were receiving similar rough, slatted television images from the moon, images picked up by a lunar camera, transformed into radio signals received on earth, and converted by a computer into a moving picture on millions of TV screens (with more than 500 lines of resolution) around the world.

Even in a society whose economics necessarily align innovation with progress, it is hard to overestimate the significance of this extraordinary leap. Television is, of course, only one of this century's proliferating modes of communication. It is also the most recent in a series of developments, beginning in the nineteenth century with the earliest photography, and later including film, which have initially sought to reproduce virtual images—first static, then moving—through mechanical, chemical, and now electronic processes. However we may evaluate television's specific effects, it has permanently altered the world we live in. The relative dearth of such evaluation is curious, but it is clear that the "global village," insofar as it has been created by international and now extraterrestrial televisual connection, is not the New Atlantis.

A Historical Primer

for an Improbable Alliance

As early as the second half of the nineteenth century, inventors in many countries endeavored to transmit pictures by wire. Patent applications for several such devices were submitted in 1880, by Alexander Graham Bell, among others. The method of transmission involved mechanical scanning by rotating discs, converting an image to electrical impulses which could be reconstituted as an image by a similar mechanism at the receiving end. By the 1920s, mechanically scanned pictures were successfully transmitted by radio wave in both the U.S. and Europe. The first electronic scanning device was patented in 1923 by a Russian immigrant, Dr. Vladimir Zworykin. The "iconoscope," as Zworykin called his invention, which employed the Braun cathode tube to transmit moving images, came to the attention of David Sarnoff, of the Radio Corporation of America. RCA joined with a number of other radio companies—General Electric, Philco, Zenith, the Allen B. Dumont Laboratories, and the Farnsworth Company—and intensified efforts to develop television. By 1939 the cathode ray tube (CRT),¹ the basic element in a modern TV set, was perfected. On April 30 of that year, the National Broadcasting Company, an RCA subsidiary, brought television to public awareness by telecasting the dedication of the RCA Exhibit Building at the World's Fair. Visitors to the Fair could both hear and see Sarnoff on television monitors saying,

... It is with a feeling of humbleness that I come to the moment of announcing the birth in this country of a new art so important in its implications that it is bound to affect all society. It is an art which shines like a torch of hope in a troubled world. It is a creative force which we must learn to utilize for the benefit of all mankind.

Allison Simmons

These are somewhat ironic words in the light of the subsequent history of broadcast television programming, which began, on a limited basis, ten days after this speech.

The operational structure of early television derived from radio. The National Broadcasting Company was founded in 1927, and operated the Red and Blue Networks until 1941, when, in the interest of competition, it was forced to sell the Blue Network, which became the American Broadcasting Company. The year 1928 saw the formation of the United Independent Broadcasters' Network, which, under the leadership of William S. Paley, in turn became the Columbia Broadcasting Company. The tremendous success of radio broadcasting made it necessary to regulate the allocation of signal frequencies to prevent interference, copyright violation, and a host of other problems. The Federal Radio Act of 1927 and the Communications Act of 1934 both tried to establish a structure for broadcasting, the latter act pronouncing the vague and unchanged criteria for station licensing as "to serve the public interest, convenience, and necessity." The Communications Act also insisted on protection for broadcasters under the First Amendment and founded the Federal Communications Commission. On April 30, 1941, the FCC authorized the development of commercial television and allocated 18 VHF (very high frequency) channels for this purpose.

Development of TV was slowed by World War II, but advanced rapidly after 1945. The first network, connecting New York, Washington, Philadelphia, and Schenectady, was opened in 1946, and the "Model T" television receiver, with a 10-inch picture tube, became available on the consumer market for \$375.00. Government controlled television also began to appear in Europe at about this time. By 1948, however, frequency problems in the U.S. had grown so severe that the FCC declared a freeze on the assignment of all new channels until 1952, when by its Sixth Report and Order, it established twelve VHF channels (Channels 2-13, 54-216 megacycles) and seventy-two UHF (ultra high frequency, 420-890 megacycles) channels (Channels 14-83), with two hundred and fifty-two channels, mostly UHF, reserved for educational programming.

In the years following the Sixth Report and Order, the power of the major television networks was consolidated. In business, the discovery of television's impact as an advertising medium spurred the nationwide network linkage of cities. At home, the output of the then prevalent 21-inch screen increasingly influenced daily life. Color TV became available in 1955, and by 1963 was widespread. Early studio techniques were invented for altering and enriching the television image.² In 1967, after excessive debate, a Public Broadcasting Service was established, funded through government and foundation support and viewer contributions.

In the mid-1960s a gradual but important reversal of direction—toward decentralization—began to affect the structure of television. One factor precipitating this change was the passage of a law in 1964 specifying that all new TV sets incorporate the capacity for both VHF and UHF reception (previously, UHF had required special equipment), and increasing the number of channels reserved for educational programming to 329, thus greatly expanding the viewer's choice. Another factor was the growth of cable television both in the United States and abroad. This system transmits the electrical TV signal directly from its source along a coaxial cable to TV sets in the homes of individual subscribers. The number of channels a cable TV system can offer is a function of its wiring, rather than the number of available and licensed radio frequencies to which over-the-air telecasting is limited. Cable TV first came into use in the late 1940s as a means of improving reception in areas where mountains, high buildings or distance interfered with broadcast signals. Its potential as a carrier of specialized programming began to be realized in the 1960s; a few years later, many of the larger cable television systems in the U.S. were to have the capacity to deliver as many as forty channels of information.

A third factor contributing to the fragmentation of the original broadcast structure was the emergence of an alternative to the huge, cumbersome, and very expensive broadcast studio equipment on which television had hitherto been made. In 1965, Sony introduced a hand-held camera and portable video tape recorder (VTR) which used ½-inch tape (instead of the 2-inch tape used in broadcast studios). This equipment was relatively inexpensive (from \$1,000 to \$3,000, between 1965 and 1970), and though primitive by broadcast standards, its black and white video recordings were eminently suited to closed-circuit display. The Portapak provided an invaluable tool to educators, students, businessmen, lawyers, psychiatrists, artists, and others who, with little or no technical training, could suddenly make "personal" television. With the portable VTR, television broke out of the monolithic structure of network broadcasting, which programmed for a mass audience, and offered the means to create programming as heterogeneous as the viewing public.

In addition to this diversification in the U.S., the 1960s saw the expansion of television around the globe. Many nations instituted state-controlled public broadcasting systems which varied greatly in quality, and which (at least in non-Communist countries) frequently included reruns or imitations of American TV programming as staples. Communications satellites began to transmit data and live news coverage from various parts of the world. In accordance with the exploratory spirit of the sixties (a spirit which was, for the first time, as much provoked by as reflected in the media), efforts were undertaken toward the end of the decade to develop new forms of television: 10,000-15,000-line CRTs, 3-D TV, a 4-foot by 6-foot CRT only 1 foot thick (high resolution projection systems with 4-foot by 6-foot screens are presently on the market), color laser transmission, optical fiber transmission, self-adjusting

monitors, and wall-size plasma screens. Though progress on these projects was slower than enthusiasts had anticipated, the immediate availability of video cassettes and the introduction of video discs, in addition to ¾-inch and 1-inch videotape, provided an increasingly flexible choice of video format.

On a practical level, this turbulent activity has resulted in the television of today, still dominated by network broadcast television, and even in its persistent moves toward diversification, beset with problems of equipment standardization and financial survival. On a theoretical level, however, the effects of television's sudden omnipresence have met with little significant scrutiny beyond statistical and sociological analysis. Marshall McLuhan's importance resides first in the repercussive timeliness of his books, *The Gutenberg Galaxy* (Toronto: University of Toronto Press, 1962) and *Understanding Media* (New York: McGraw-Hill, 1964). From the 1940s on, a number of books appeared which anticipated or paralleled aspects of McLuhan's thinking on changes in communications technology and their impact on successive cultures. Among these were H. J. Chaytor's *From Script to Print* (Cambridge, England: W. Heffer & Sons, 1945), Milic Capek's *The Philosophical Implications of Contemporary Physics* (Princeton, N.J.: D. Van Nostrand Co., 1963), Siegfried Giedion's *Mechanization Takes Command* (Fair Lawn, N.J.: Oxford University Press, 1948), Harold A. Innis's *The Bias of Communication* (Toronto: University of Toronto Press, 1951) and *Empire and Communications* (London: Oxford University Press, 1950), William Ivins, Jr.'s *Prints and Visual Communication* (London: Routledge and Kegan Paul, 1953), Lewis Mumford's *Technics and Civilization* (New York: Harcourt, Brace & World, 1963), and Abbott Payson Usher's *The History of Mechanical Inventions* (Boston, Beacon Press, 1959). Though McLuhan's *The Mechanical Bride* appeared in 1951, the 1960s provided an ideally receptive audience in disaffected students and others who increasingly questioned the right of various authorities to mold public opinion and private values by failing to make available information other than that affirming an academic or economic *status quo*. Students demanded that college curricula be "relevant"; nothing was more relevant to their lives than the media which modeled them. In conjunction with writings by such authors as those mentioned above, McLuhan's work, which appealed stylistically as well as conceptually to a media-conditioned readership, provided both a stimulus for and a tool with which to begin the formal study of media as an academic discipline.

Concerning television specifically, early speculations on television's effects led to the following familiar conclusions:

- TV has diffused our understanding of past and present. By presenting us with many vivid events at once, television breaks down our sense of history, cuts us off from a sequentially ordered past built on the structure of family and community. (Studies of oral tradition have shown that a shortened memory is one of the earmarks of increasingly urbanized, technological society.)

- TV has fostered an ambivalence between activity and passivity. Television's juxtaposition of banality and real human disaster creates a moral and aesthetic numbness, encouraging passivity, even apathy and manipulability. Yet television is intensely involving and creates a strong sense of active participation. The specific participation TV demands is fantasized identification with a winner or loser in a conflict situation, a game/ritual, whether a war, a Western, a political debate, a soap-opera marriage, or a pro football game. Imaginative participation usually acts as a surrogate for real action, and by stressing external behavior rather than interior reflection, promotes thinking in stereotypes. Generalized good-guy/bad-guy thinking (which is typical of young children) in turn reinforces the viewer's feeling of powerlessness with respect to the present one-way structure of broadcast television, and to industrial and governmental influence over his or her life. One result is indifference, which is a way of "tuning out" the experience of helplessness.

- TV blurs the distinction between the real and the fictitious. The importance of this distinction as affected by television was demonstrated in an experiment in which two groups of children were shown the same videotape of a violent encounter between police and students. One group was told that the tape was just a TV show and wasn't "real," and the other that it was a newsclip of an actual event. When they played together afterward, the first group was peaceful and friendly, but the children in the second group were noticeably agitated and immediately selected aggressive toys, such as guns and tanks. Even as adults, we are not often sufficiently conscious of how a "real" newsclip may distort a real event by selective presentation. It is certain, though, that sheer repetition of a TV message leads to its credibility. The millions of dollars spent on air time by corporations and politicians to expose us repeatedly to a positive "image" of themselves or their products or programs testify to this.

- TV has intertwined the traditional concepts of public and private. Much of the early enthusiasm about TV focussed on the paradox that the private TV viewing experience in one's living room was simultaneously a public event, shared with millions of others. McLuhan's now familiar view was that the instantaneous, inclusive information and "cool" (low-definition) image of the television medium involved the viewer in completing a communication process which would ultimately result in a "global consciousness." It is ironic that the first generation to have grown up with television, the youth of the sixties, felt itself alienated from rather than interconnected with society. In fact, the protests of the

sixties were aimed at the segregating, hierarchical stratification of industry, education, and government, whose inequities technology (and communications technology in particular) had increasingly exposed. But optimism about the cohesive potential of television has been countered with another view: that television is an intensely private, fragmenting medium whose force derives more from the solitary nature of its reception than from any sense of communality it may evoke. The use of television as a medium for personal, mind-to-mind communication is just beginning to be explored.

The relation between our visual perception of the TV image and our understanding of that image has been noted by such eminent art historians as E. H. Gombrich, who wrote in 1972: "... It is the limited power of vision that has made television possible: the changing intensities of one luminous dot sweeping across the screen build up the image in our eye."³ Gombrich's purpose here was to argue against an equation of art with communication, stressing the dependence of the image on code and context for interpretation. It is in the central problem of visual perception that the first connection between art and television lies, since television has exercised such a complex influence on our perceptions generally. But considered in the light of certain important ideas that emerge from the history of art in the twentieth century, the odd appropriateness of this connection becomes more apparent.

Reacting as it did to the *fin-de-siècle* withdrawal and rarified idealism of Symbolism, the Dada movement, started in 1916 in Zurich, was vigorously opposed to the romantic idea of the artist as aloof from society, answerable only to an individual, transcendent vision of "beauty." To the Dadaists it seemed that this view of the artist had its roots in the principle of unbridled striving for supremacy which brought about war, World War I specifically. Dada was emphatically political; it was, in the words of Hugo Ball, "... a gladiatorial gesture ... a public execution of false morality." That "false morality" constituted the values of European bourgeois society, including its attitudes toward art.

This attack on academic tradition, on "good taste," had been recently anticipated in Italian Futurism, and was soon to be advanced by the Constructivists as well. While not so flagrantly iconoclastic as Dada, both Futurism, in its concern with the energy and movement of industrialization, and Constructivism, in its overt support of the Russian Revolution of 1917 and interest in industrial materials and machinery, sought to liberate art from what they considered to be oppressive middle-class, capitalistic conventions.

Duchamp's famous "readymades," products of a mass-production technology, directly flaunted the traditional idea of the unique art object. Just as the Dadaists objected to the romantic notion of the artist, so they disdained the attribution to an object of an idealized beauty beyond everyday reality. The result was that Dada directed attention away from the object itself and toward the viewer's experience of it, which necessarily involved his or her conceptions about art. Meaning was no longer in the "content" of a work (the object itself), but in the perceptions it elicited.

Surrealism, which stemmed from Dada, continued in this direction. By exploring the spontaneous productions of the unconscious, the Surrealists sought to effect a disorientation (*dépaysement*) of objects or images which would provoke, or in Eluard's phrase, "*donner à voir*," the perception of new relationships. The experimentation with media other than the conventional graphic and sculptural materials initiated by Dada and Surrealism was taken up, albeit with differing ideological motivations, by subsequent movements, leading to an investigation of photography, film, sound, light, kinesis, and computers as means of making art. The Bauhaus, for example, instilled craftsmanship through experiments designed to reveal the nature of various media. Though ultimately closer to Constructivism than to anything else in its formal bias, this school specifically encouraged work in film and photography. Indeed, the photographer-painter Laszlo Moholy-Nagy, who taught there, declared that "the illiterate of the future is the man without a camera." Since television (like photography and film before it) provided a new visual language, it was inevitable that artists would attempt to speak through it.

There are no credible factual accounts of the earliest steps taken by artists to work in television, either by telecasting films made with an eye for home TV reception (as opposed to the telecasting of films created as films *per se*), or by actively producing works within the context of television itself. We know that the Hungarian-born artist Nicolas Schoffer (whose basic media are light and kinetics) created a work on film for telecast in France in the mid-1950s, but little more. In Germany, Wolf Vostell—an artist with strong affinities to Dada—composed a happening ("*Ereignisse für Millionen*") dedicated to television. More important, he assembled a group of broken, mistuned, paint-daubed, and even gunshot TV sets which were exhibited in 1959 in Cologne and four years later at the Smolin Gallery in New York. In 1963, Nam June Paik, a Korean composer also working in Cologne, displayed thirteen TV sets with variously distorted images, entitled "Electronic TV," in conjunction with an experimental music exposition at the Galerie Parnass. Subsequently, Paik acquired in 1965 what was probably the first portable videotape recorder available in New York, and on October 4 made a taxi ride videotape of Pope John's visit to the city which he showed that night at the Café Au Go-Go. A statement he distributed at the time predicted that "as collage technique replaced oil paint, the cathode ray tube will replace the canvas."

Paik had become interested in television after 1958, when he traveled to Cologne to work in the electronic music studio directed by Karlheinz Stockhausen, where John Cage was also then working. Paik's early TV experiments stemmed partially from the influence of Cage, but also from an acute sense of the significance of new technological developments: laser, cable, and microwave TV; videophones, video discs and cassettes. He was not alone. The mid-1960s were characterized by an increasing awareness throughout the western art world of the impact, significance, and potential of contemporary media. In Britain, a group of artists associated with the Institute of Contemporary Art, most notably Richard Hamilton and Eduardo Paolozzi, veered sharply away from conservative British aesthetics by incorporating images from popular culture—products of machine or media—in collages and sculpture. Enthusiasm for Pop in Britain, critically supported by Lawrence Alloway, was resoundingly echoed across the Atlantic in the U.S., which offered abundant resources for an art centrally concerned with the effects and underpinnings of mass culture.

In Germany, the ZERO group—originally organized to exploit media like light and sound—evidenced a growing interest in television. In 1968, Otto Piene, its leading figure, collaborated with an American, Aldo Tambellini, in creating a live, on-the-air telecast over WDR, the central TV station in Germany, entitled “Black Gate Cologne.” One of the spectators was a young German art dealer, Gerry Schum, who shortly thereafter opened the first “gallery” devoted exclusively to the exhibition of films and videotapes, The Television Gallery, in Düsseldorf.

In the United States, Paik's interest in videotape was shared by a number of artists who found the camera and portable recording deck—as well as the TV set itself—inviting tools for work oriented in many different directions, from street documentation to the recording of performances to the use of the videotape itself as the performance (or “canvas”) of the work. Crude “video synthesizers” were invented by engineer-artists, allowing virtually anyone to manipulate dials and create colorful, radiant abstractions for display on nearby TV monitors. Monitors themselves were altered, painted, stacked, arranged, or assembled as see-yourself sculpture (with cameras installed inside them). Now and again, primitive telecasts of this work were managed in friendly public and commercial television stations. The artists included Paik, of course; Vito Acconci, Stephen Beck, Peter Campus, David Cort, Douglas Davis, Frank Gillette, Les Levine, Douglas Michels, Bruce Nauman, John Reilly, Ira Schneider, James Seawright, Michael Shamberg, Eric Siegel, Keith Sonnier, Rudi Stern, Thomas Tadlock, Aldo Tambellini, Stan Vanderbeek, and Andy Warhol.

Much of this work was exhibited in four early, ground-breaking exhibitions. "TV as a Creative Medium," organized at the Howard Wise Gallery in New York in 1969, was the first in the United States. It was quickly followed by "Vision and Television," in early 1970, an ambitious exhibition at the Rose Art Museum (a part of Brandeis University, in Waltham, Massachusetts), curated by Russell Connor, who later joined the New York State Council on the Arts as director of its pioneering Film-TV-Media Division. One year later, in 1971, the Finch College Museum of Contemporary Art in New York invited ten artists to create tapes in its museum (with equipment rented for the occasion), which were transformed into an exhibition for the month following. Later that year, the Whitney Museum of American Art hosted "A Special Videotape Show," a month-long anthology of tapes dating back to Paik's first experiments. Several galleries were also active in encouraging and displaying videotapes during this period, most notably Leo Castelli.

As often happens, the chance availability of a tool—as well as a nascent market—influenced the basic nature of an art form. The decision made by the Sony Corporation, the world's leading manufacturer of consumer-oriented television products, to concentrate its sales efforts during the 1960s in the United States made "personal television" possible there well before it was possible in Europe and Asia. But although videotapes by American artists could be played back over high-resolution, direct-access cable television systems, as well as in closed-circuit installation, ½-inch videotape could not be successfully transmitted, at first, over the air. Despite its oft-proclaimed desire to disseminate beyond the traditional confines of arts and letters, therefore, video art between 1965 and 1970 was a hermetic organism: the work was displayed in galleries, universities, lofts, tiny video theaters (like the Electronic Kitchen in New York), and written about largely in art magazines or periodicals devised within the movement itself (such as *Radical Software*, edited by Ira Schneider and Beryl Korot, first published in 1970).

For this reason, and because the television industry itself was obviously in need of fresh creative thinking, several charitable foundations began to smooth the route of access for artists to the broadcasting structure. The Rockefeller Foundation's Artist-in-Television program dates back to 1967, when small seed grants were made to Public Broadcasting Stations WGBH in Boston and KQED in San Francisco to subsidize experimental activities that would match artists from the outside with younger members of the producing staff. After a number of experiments with special effects, with collages of abstract imagery and daily events and even a simultaneous broadcast over two radio and two TV channels, WGBH's Fred Barzyk produced in 1969 "The Medium is the Medium." Paik, Piene, Kaprow, Tadlock, Tambellini, and James Seawright all contributed to this program, each exploring a different aspect of the television medium. One year later Barzyk produced an even longer and more complex anthology, "Video Variations," based on experiments with the medium, telecast against the music of the Boston Symphony Orchestra. Eight

artists contributed this time: Paik, Seawright, Vanderbeek, Wen-Ying Tsai, Douglas Davis, Constantine Manos, Jackie Cassen, and Russell Connor. Also at WGBH, Stan Vanderbeek made "Violence Sonata" (1970), which examined the theme of violence and invited phone-in response from the viewing audience. 1970 also saw the first broadcast performance of the video synthesizer invented by Nam June Paik and engineer Shuya Abe. The synthesizer was a true creature of feedback, an elaborate mixing system which allowed the artist instantly to bring forth innumerable unique images, in any range of pure electronic color, which could be changed at will. In 1971, Douglas Davis, supported by a grant from the National Endowment for the Arts (whose Public Media division had just commenced activities), created a completely two-way television program on WTOP-TV, the CBS network affiliate in Washington, D.C., with viewers phoning in sounds that established and altered video patterns on the screen, in live time.

Another video synthesizer had been developed by 1971 at the National Center for Experiments in Television at KQED by Stephen Beck. Founded in 1967 under the direction of Brice Howard, the National Center has continued to work with complex systems of electronically generated imagery and to speculate upon the theoretical underpinnings of its own and other work in television. Its first PBS network broadcast was "Heimskringla!," produced by Howard and based on a play written especially for television by Tom O'Horgan. In 1972, a third public TV station, WNET-TV in New York, joined KQED and WGBH as the home of an experimental TV Laboratory, under the direction of David Loxton, and a number of works have since been composed by artists using the full spectrum of broadcast studio facilities the Lab offers. "The Lord of the Universe," for example, a documentation of Guru Maharaj Ji's Millennium '73 revival meeting at the Houston Astrodome by Michael Shamberg's TVTV group, was edited at the TV Lab. This was the first program originally made on 1/2-inch videotape to be broadcast nationally. Another tape made at the Lab, Ed Emshwiller's "Scapemates," in which live dancers perform in and are themselves metamorphosed by an environment generated by computer graphics and video special effects, won an Emmy award in 1972.

The onset of collaborative efforts involving television stations in no sense diminished the vitality or importance of non-broadcast television. There was a considerable amount of "guerilla video" activity, resulting in videotapes which touched upon areas of life and politics avoided by network news: minority group problems, changing sexual practices, third party political campaigns, and more. TVTV was in fact the first public evidence of a direction that had been thoroughly explored and developed by Global Village in New York City, by the Videofreex in upstate New York, and by Ken Marsh's Woodstock (New York) Community Video. A primary objective of all of these groups was the telecast of their work over local cable television channels.

Within the art system itself, videotape became in 1971, 1972, and 1973 as familiar a medium as any other, both in New York and in Europe. Gerry Schum's efforts in Germany resulted in several broadcasts on German television (featuring the work of Joseph Beuys, John Baldessari, Gilbert & George, and others). In 1972, he organized, with Harald Szeeman, an entire section of video art for Documenta, the most prestigious of the great international art festivals. Not only were several German museums by then beginning to collect and exhibit video, but a well-equipped video studio had been established at the Folkwang Museum, in Essen, for use in documentation and creating art, by a consortium of thirty museums.

In the United States, these developments had a parallel thrust. The large retrospective of the work of Bruce Nauman organized by Jane Livingston and Marcia Tucker at the Los Angeles County and Whitney Museums included a great many early videotapes and installation pieces. The Everson Museum, in Syracuse, New York, established under James Harithas the first full-time department of video arts, headed by David Ross. He not only organized an energetic program of one-man exhibitions (of work by Paik, Davis, Campus, Gillette, Juan Downey, Andy Mann, and Bill Viola), but a traveling video "invitational" comprising sixty-five artists. Entitled "Circuits," it was shown at the Everson, the Cranbrook Museum in Bloomfield Hills, Michigan, the Henry Gallery, in Seattle, Washington, and the Boston Museum of Fine Arts, ending as a basic part of "Projekt '74," a city-wide exhibition in Cologne, Germany, centered at the Kunstverein and Kunsthalle.

In 1974, national and international distribution systems for artists' tapes began to take shape, under the auspices of Electronic Arts Intermix, the Castelli and Sonnabend Galleries, and Stefanotty Gallery (in association with Art/Tapes, Florence, Italy), all centered in New York. They immediately encountered a horde of problems—legal as well as ideological—arising from conflict over the nature of a video work: is it public information or a unique (though easily duplicated) art work? The paradoxicality of the medium presented anew some of the old issues raised by Dada.

The rest of the world followed this development with much interest and some experimentation on its own, particularly in Germany. Portable video equipment was generally slower to reach Europe and Latin America, and even in Japan it was very expensive. The disparate attitudes toward video experimentation outside the United States and Germany are described more extensively in the essays and statements on the international aspect of video which appear later in this volume.

Taken in sum, they demonstrate—as does this brief historical paradigm—that the alternative video “movement” was a complex, many-sided phenomenon at the point at which the “Open Circuits” conference convened, early in 1974. What had once been described (by outsiders, not by the critical participants themselves) as a simple-minded attempt to “democratize” the medium had refined at least three main and often conflicting approaches:

1. *Political*—artists directly involved either in the production of documentary videotapes focussed on social issues or in reshaping the broadcasting structure itself, through managing and filling cable and UHF broadcast time
2. *Imagist*—work deeply engaged in new means of creating images, via synthesizer, computer, or a combination of both
3. *Conceptual*—nondocumentary artistic activity directed primarily at videotape as the object-medium, but with major emphasis on concept-idea-performance, rather than the creation of innovative formal images.

These differences of approach—complicated and intersected by structural oppositions as to how experimental video should be shown (on closed-circuit systems in galleries and museums, or at home, over cable or broadcast TV)—come to vivid life at “Open Circuits.” They are reflected in this book, and doubtless form the basis for a later synthesis, as some approaches die and others evolve.

“Open Circuits” thus stands both at the end and at the beginning of two energetic spurts of creative and practical activity, in television as well as art. In the broadest sense, it marks an end to innocence. The easy platitudes about a new “global village” and oversimplified optimism about changing television can no longer be sustained. Neither can the conviction that television is “just another new tool,” or—more bluntly—“the latest thing,” a view held within the traditional sector of art critical opinion. Evelyn Weiss, Curator of Modern Art at the Wallraf-Richartz Museum, describes in this book how her attitudes on this issue changed, during the early 1970s. Many others, witnessing the complexity and energy involved in “Open Circuits,” have doubtless transcribed the same cycle. Television is not simply another tool. It is not in fact a tool of any kind, but an incredibly complex system of instant visual communication, eclipsing any other medium preceding it, including printmaking, photography, and film. It is a system which permits the artist everything and denies him (by its immense challenge) everything at once.

What is therefore now beginning is a period during which those creating, producing, or thinking about television can begin to work from a solid basis in information and experience. It is by no means a period bound to produce success, for art (the most obdurately personal area of human activity) and television (the most public, at least in outward organization) have very little in common. That is precisely why their convergence is at once so provocative and inevitable, of course. As we have tried to show in this essay, both art and television have been straining in recent decades against their respective pasts—art to find a larger, public medium in which to act, television to find a smaller, personalized role, akin to print rather than spectacle. It remains to be seen whether either side, by embracing the other, can find itself.

Notes

1 The cathode ray tube (CRT) is a vacuum tube whose inner face (our TV screen) is coated with phosphors. A beam of variably charged electrons (three beams, red, blue, and yellow, in most color tubes) is shot from a "gun" at the rear of the tube, scanning the screen horizontally across each "line of resolution," thirty times per second. This creates the TV image by causing phosphors in different areas to glow with different intensities. The electrical signal which produces the beam of electrons reaches the receiver either through the airwaves, as in broadcast TV, or through direct connection with the source of the signal, by coaxial cable or microwave relay, as in closed-circuit and cable TV. The signal itself is originally produced by a TV camera, which records a picture on its own tube's photo-sensitive surface. The picture's pattern of light and shade is here transformed into a pattern of electrical charges. This pattern is scanned by a "pickup" beam of electrons and converted into a varying current which can be instantly displayed on a monitor, transmitted, or recorded on magnetic tape for immediate or future playback, as with audiotape (but not film).

2 Some of these are:

Keying. In black and white or color, keying allows the imposition of a picture from one camera into that of another. With chroma-key (color keying), the color of one of the electronic color guns is made, in effect, to disappear, creating "holes" in the TV picture wherever that color is picked up by the camera. The picture from a second camera can then be made to appear in the "holes." Keying can also be achieved by wiping or partially matting out the intake from one camera.

Video feedback. This process allows the camera to take its own image in a monitor, and makes possible the creation of an infinite number of abstract images.

De-beaming. By reducing the current required to produce a clear picture, or de-beaming, moving images can be made to leave shadows, which with color can be brilliantly hued.

Switchers and special effects generators. These permit a number of video sources to be mixed or altered, often in a complex manner.

Other visual media are sometimes used to extend television's capabilities. For example, one or several slide or film projectors may be "multiplexed" (fed together) into a television camera. This set-up is called a film chain.

3 "The Visual Image," *Scientific American*, 219 (September 1972), p. 91.

THE NEW TELEVISION:

ESSAYS, STATEMENTS, AND
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THIS BOOK IS EDITED BY DOUGLAS
DAVIS AND ALLISON SIMMONS AND
BASED ON 'OPEN CIRCUITS: AN
INTERNATIONAL CONFERENCE ON
THE FUTURE OF TELEVISION,'
ORGANIZED BY FRED BARZYK, D.
DAVIS, GERALD O'GRADY, AND
WILLARD VAN DYKE FOR
THE MUSEUM OF MODERN ART
NEW YORK CITY.

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